

A TRICARPELLARY WALNUT*

BY WILLIAM H. LAMB

A tricarpellary walnut is one that is separable into three divisions. In general walnuts are bicarpellary, but tricarpellary forms do occur, especially in our so-called "English walnut," *Juglans regia* L. The accompanying sketch shows an end view and diagrammatic cross section of one of these interesting forms.

The term "English walnut," by the way, is a misnomer, for *Juglans regia* is not a native of England at all. It is extensively cultivated in England and on the continent, but is native to southeastern Europe, Greece, Asia Minor, and China. It has been more properly called "Persian walnut."

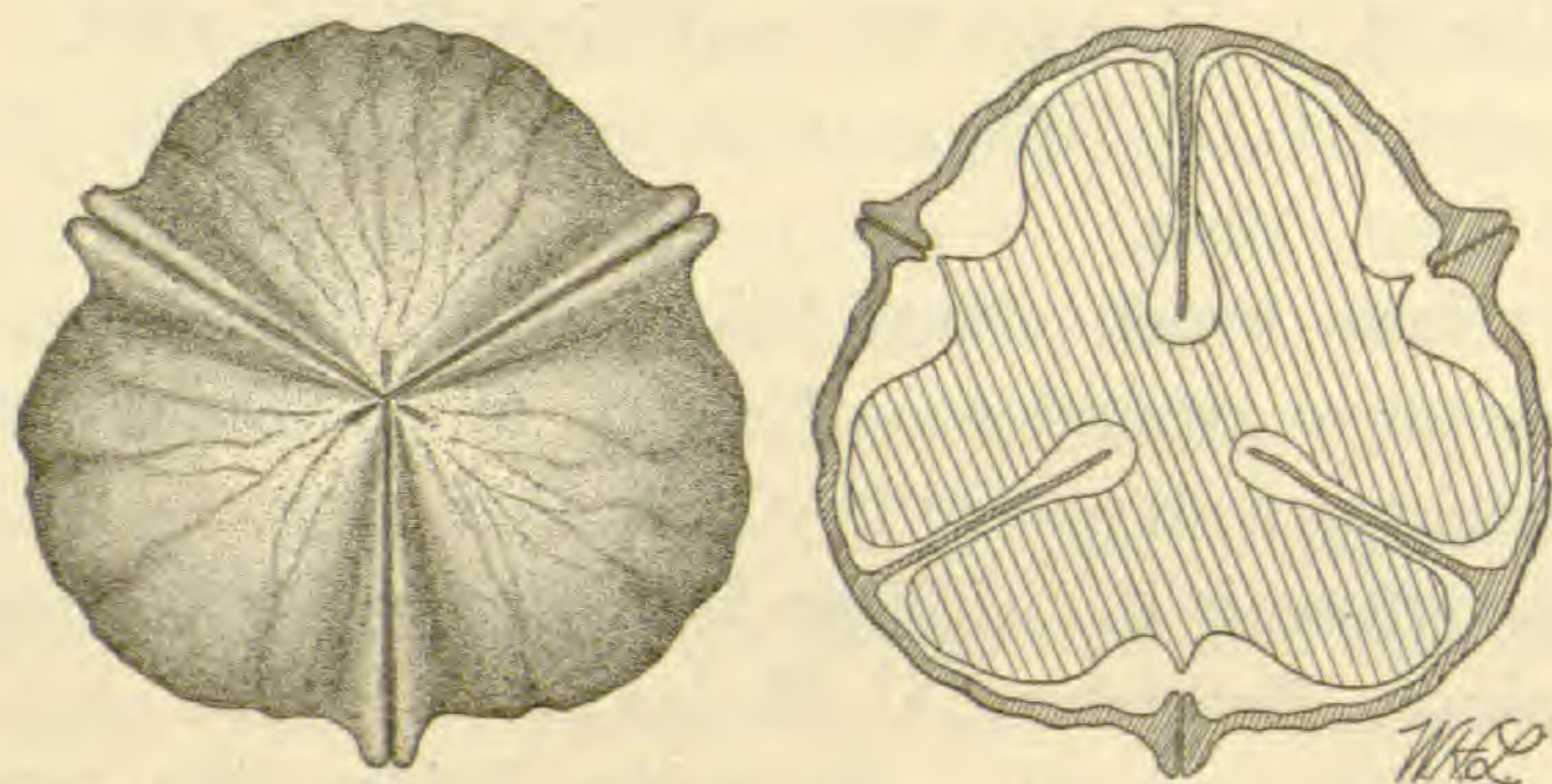


FIG. 1. End view, natural size, and diagrammatic cross section of a tricarpellary walnut (*Juglans regia* L.).

Before discussing the significance of a tricarpellary walnut, it might be well to consider just what a walnut is. A walnut is not a fruit. Indeed it is an interesting fact that no species of *Juglans* bears edible fruit. The fruit proper is a bitter, green or black, more or less fleshy drupe. It contains the walnut, just as a peach contains a large seed. If we were to throw away the fleshy part of the peach and retain the stone as a delicacy, we would be doing precisely what is done in the case of the walnut. The edible portions of a walnut are the large cotyledons.

These cotyledons are deeply lobed in consequence of an in-

* Published by permission of the Secretary of Agriculture. See also *Torreyia* 8: 136. 1908.—ED.

complete septation of the cavity of the ovary. That is, the seed is divided internally by a false partition which does not completely separate the cavity into two parts, and the cotyledons are lobed and wrinkled to fit into the irregularities of the inner surface of the seed. The English walnut, then, though morphologically bicarpellary, contains but one ovule; *i. e.*, it is morphologically a true nut (one-seeded pericarp resulting from a several carpelled gynoecium).

Now what we would expect to find in a case of reversion would be a form in which this division of the ovary was complete, forming by this septation a true bicarpellary ovary, but in this specimen we find a reversion to a type in which there are three incomplete septa in the ovary, forming a nut which is separable into three parts, but which contains but one ovule, with three cotyledons. This is probably due to the fact that the reduction of the ovary in the *Juglandaceae* has been carried so far that the ovule has become basal and erect, and a complete septation of the ovary is prevented by the obstruction of the hypocotyl or upright stalk which supports the cotyledons.

PROCEEDINGS OF THE CLUB

OCTOBER 8, 1912

The meeting of October 8, 1912, was held at the American Museum of Natural History. Dr. E. B. Southwick called the meeting to order at 8:30 P.M. Eight persons were present.

The minutes of May 29 were approved.

Mr. Henry O. Severance, librarian of the University of Missouri, Columbia, Missouri, and Mr. Otto Kunkel, Columbia University, New York City, were nominated for membership.

Mr. Sereno Stetson, chairman of the field committee, and Dr. E. B. Southwick reported on the field meetings held during the summer.

The application of Miss Jean Broadhurst for a grant of two hundred dollars from the Esther Hermann Fund to assist her